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(71) Applicant: MITSUBISHI ELECTRIC

(72) Inventor: YAMAUCHI SHIRO
MAEDA YASUYUKI

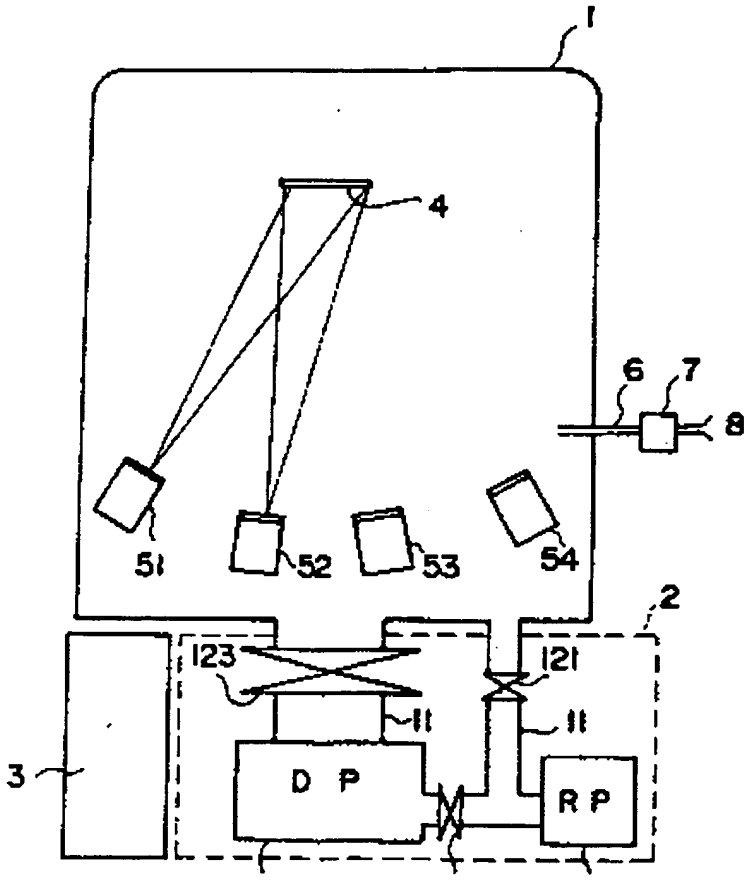
(74) Representative:

(54) THIN FILM SECONDARY BATTERY MANUFACTURING EQUIPMENT

(57) Abstract:

PURPOSE: To enable manufacture of thin film lithium battery in single verger by employing a cluster ion beam deposition unit comprising cluster gun section, plural cluster guns, plural crucibles and plural nozzles to prepare positive electrode, electrolyte and negative electrode material for respective crucible and making the crucible temperature and the acceleration voltage controllable.

CONSTITUTION: The interior of verger 1 is depressurized to 6×10-7Torr then the cluster gun sections 51, 52 are functioned to thermally evaporate titanium and sulfur thus to form a crystarization thin film of titanium disulfide (TiS2) on the substrate section 4. Thereafter, the cluster gun sections 53, 54 are functioned to thermally evaporate aluminum and lithium while the oxygen from gas supply source 8 is regulated of its flow



through gas flow regulator 7 and led through gas supply piping 6 into the verger section 1. Consequently, crystarized thin film electrolyte of Li2O-AL2O3 is formed on the substrate section 4. Finally, only the cluster gun section 54 is functioned to form Li thin film onto I, i-β alumina thus to produce a thin film secondary battery.